AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions of claims presented in the subject application.

Listing of Claims:

1. (Currently amended) A method for reducing cross-polarization interference in a wireless communication system, comprising:

generating first data to be transmitted from a first transmission terminal;

encoding the first data with a long code at the first transmission terminal to produce a first long-encoded signal;

applying a first polarization to the first long-encoded signal to produce a first long-encoded, polarized signal; and

~~generating second data to be transmitted from a second transmission terminal;~~

~~encoding the second data with the long code at the second terminal to produce a second long-encoded signal;~~

~~applying a second polarization to the second long-encoded signal to produce a second long-encoded, polarized signal; and~~

transmitting the first ~~and second~~ long-encoded, polarized signal[[s]] from the first ~~and second~~ transmission ~~terminals, respectively,~~ terminal to at least one destination,

wherein the encoding the first data with the long code at the first transmission terminal comprises utilizing an identical long code also employed by a second transmission terminal transmitting signals having an opposite polarization to the first polarization.

2. (Currently amended) The method of [[C]] claim 1, further comprising:

orthogonalizing the first data transmitted by the first transmission terminal with respect to second data transmitted by the second transmission terminal ~~plural sub-channels of the first data and second data by applying respective a plural mutually distinct Walsh codes in each sub-channel~~.

3. (Currently amended) The method of [[C]] claim 2, wherein the orthogonalizing ~~step includes~~ further comprises:

applying a first spreading code ~~different Walsh codes~~ to ~~different respective~~ the first data, originating from the first transmission terminal, to generate a first spread signal, wherein the first spreading code is distinct from a second spreading code utilized by the second transmission terminal to generate a second spread signal from the second data, ~~different respective users of the communication system.~~

4-6. (Cancelled)

7. (Currently amended) The method of claim 3, wherein the applying the first spreading code further comprises applying a first Walsh code, assigned to the first transmission terminal, to generate the first spread signal, wherein the first Walsh code is distinct from a second Walsh code assigned to the second transmission terminal.

~~A communication method including the transmission method of Claim 1 and further comprising:~~

~~receiving the first and second long-encoded, polarized signals;~~

~~separating the first long-encoded, polarized signal from the second long-encoded, polarized signal in accordance with their respective polarizations to produce a first long-encoded communication signal and a second long-encoded communication signal; and~~

~~applying the long code to the first and second long-encoded communication signals to produce the first and second data.~~

8. (Currently amended) A method, comprising: ~~of demodulating first data transmitted from a first transmission source and second data transmitted by a second transmission source, the first data transmitted as a first long-encoded, polarized communication signal having a first polarization and the second data transmitted as a second long-encoded, polarized communication signal having a second polarization, the method comprising:~~

receiving a signal, via an antenna;

dividing the signal received into a first signal, transmitted from a first transmission terminal, and a second signal, transmitted from a second transmission terminal, wherein the first signal and the second signal have opposite polarizations with respect to one another;

~~receiving the first and second long-encoded, polarized communication signals;~~

~~separating the first long-encoded, polarized communication signal from the second long-encoded, polarized communication signal in accordance with their respective polarizations to produce a first long-encoded communication signal and a second long-encoded communication signal;~~

applying an identical long code to the first signal and the second ~~long-encoded communication signals~~ signal to generate a ~~to produce~~ first decoded signal and a second decoded signal, [[s]] respectively;

applying a first orthogonal code to the first decoded signal to produce ~~the~~ a first output signal corresponding to the first ~~data~~ signal transmitted from the first transmission terminal; and

applying a second orthogonal code to the second decoded signal to produce ~~the~~ a second output signal corresponding to the second signal ~~data~~ transmitted from the second transmission terminal.

9-12. (Cancelled)

13. (Currently amended) The method of claim 8, ~~A communication method including the demodulating method of Claim 8 and~~ further comprising:

generating a first in-phase signal component and a first quadrature signal component of the first signal; and

performing respective pulse shaping operations on the first in-phase signal component and the first quadrature signal component.

~~encoding the first data with the long code at the first transmission source to produce the first long-encoded communication signal;~~

~~applying the first polarization to the first long-encoded communication signal to produce the first long-encoded, polarized communication signal;~~

~~encoding the second data with the long code at the second transmission source to produce the second long-encoded communication signal;~~

~~applying the second polarization to the second long-encoded communication signal to produce the second long-encoded, polarized communication signal; and~~

~~transmitting the first and second long-encoded, polarized communication signals from the first and second transmission sources, respectively, to at least one destination at which the demodulating method is performed.~~

14. (Cancelled)

15. (Currently amended) A computer-readable storage medium having stored thereon computer-executable ~~usable~~ instructions that, in response to ~~stored thereon for~~ execution, cause a computing device ~~by a processor~~ to perform ~~a method~~ operations, comprising:

encoding first data with a long code ~~at a first terminal~~ to produce a first long-encoded signal;

applying a first polarization to the first long-encoded signal to produce a first long-encoded, polarized signal; and

~~encoding second data with the long code at a second terminal to produce a second long-encoded signal;~~

~~applying a second polarization to the second long-encoded signal to produce a second long-encoded, polarized signal; and~~

transmitting the first ~~and second~~ long-encoded, polarized signal[[s]] ~~from the first and second terminals, respectively,~~ to at least one destination,

wherein the encoding the first data with the long code comprises utilizing an identical long code employed by a disparate computing device to transmit, with an opposite polarization from the first polarization, second data.

16. (Cancelled)

17. (Currently amended) A computer-readable storage medium having stored thereon computer-executable ~~usable~~ instructions that, in response to ~~stored thereon for~~ execution, cause a computing device ~~by a processor~~ to perform ~~a method~~ operations, comprising:

receiving a signal via an antenna ~~first and second long-encoded, polarized communication signals~~;

~~separating the first long-encoded, polarized communication signal from the second long-encoded, polarized communication signal in accordance with their respective polarizations to produce a first long-encoded communication signal and a second long-encoded communication signal;~~

dividing the signal received into a first signal, which is transmitted from a first transmission terminal, and a second signal, which is transmitted from a second transmission terminal, wherein the first signal and the second signal have opposite polarizations with respect to one another;

applying an identical long code to ~~each of~~ the first signal and the second ~~long-encoded communication~~ signal[[s]] to ~~produce~~ generate a first decoded signal and a second decoded signal, respectively ~~data~~;

applying a first orthogonal code to the first decoded signal to produce ~~the~~ a first output signal corresponding to the first ~~data~~ signal transmitted from the first transmission terminal; and

applying a second orthogonal code to the second decoded signal to produce ~~the~~ a second ~~data~~ output signal corresponding to the second signal transmitted from the second transmission terminal.

18. (Currently amended) A transmission terminal ~~system~~ configured to reduce cross-polarization interference, comprising:

~~a first terminal, comprising:~~

~~a first data generator for generating first data;~~

a ~~first~~ long code generator configured to generate ~~for generating~~ a long code, wherein the long code generated is identical to a second long code employed by a disparate transmission terminal transmitting signals having opposite polarization to a polarization utilized by the transmission terminal;

a ~~first~~ mixer configured to encode ~~for encoding the first~~ data with the long code to produce a ~~first~~ long-encoded signal; ~~and~~

a ~~first~~ polarizer configured to apply ~~for applying a first~~ the polarization to the ~~first~~ long-encoded signal to produce a ~~first~~ long-encoded, polarized signal; and

~~a second terminal, comprising:~~

~~a second data generator for generating second data;~~

~~a second long code generator for generating the long code;~~

~~a second mixer for encoding second data with the long code to produce a second long-encoded signal; and~~

~~a second polarizer for applying a second polarization to the second long-encoded signal to produce a second long-encoded, polarized signal; and~~

a transmitter configured to transmit ~~for transmitting~~ the ~~first and second~~ long-encoded, polarized signal[[s]] ~~from the first and second terminals, respectively,~~ to at least one destination.

19. (Cancelled)

20. (Currently amended) A receiver, comprising:

an antenna ~~for receiving~~ configured to receive a signal that includes a first signal transmitted from a first transmission terminal and a second signal transmitted from a second transmission terminal, ~~first and second long-encoded, polarized communication signals~~ wherein the first signal and the second signal have opposite polarizations with respect to one another;

an ortho-mode transducer configured to ~~for separating~~ separate the first signal and the second signal ~~the first and second long-encoded, polarized communication signals~~ based on ~~their~~ respective and opposite polarizations, respectively associated with the first signal and the second signal; ~~to produce a first long-encoded communication signal and a second long-encoded communication signal;~~

a first mixer configured to apply ~~for applying~~ a long code to the first ~~long-encoded communication~~ signal to produce a first decoded ~~communication~~ signal;

a second mixer configured to apply ~~for applying~~ the long code, identical to the long code applied by the first mixer, to the second ~~long-encoded communication~~ signal to produce a second decoded ~~communication~~ signal;

a third mixer configured to apply ~~for applying~~ a first orthogonal code to the first decoded signal to produce ~~the~~ first data that originates from the first transmission terminal; and

a fourth mixer configured to apply ~~for applying~~ a second orthogonal code to the second decoded signal to produce the second data that originates from the second transmission terminal.

21. (Currently amended) A transmission system, comprising:

means for encoding first data, generated at a first transmission terminal, with a long code ~~at a first terminal~~ to produce a first long-encoded signal;

means for applying a first polarization to the first long-encoded signal to produce a first long-encoded, polarized signal; and

~~means for encoding second data with the long code at a second terminal to produce a second long-encoded signal;~~

~~means for applying a second polarization to the second long-encoded signal to produce a second long-encoded, polarized signal;~~

means for transmitting the first long-encoded, polarized signal to a receiver,

wherein the means for encoding the first data further comprises means for utilizing an identical long code to that employed by a second transmission terminal configured to transmit signals having an opposite polarization to the first polarization. ~~; and~~

~~means for transmitting the second long-encoded, polarized signal to the receiver.~~

22. (Currently amended) The transmission system of [[C]] claim 21, further comprising:

means for orthogonalizing the first data to be transmitted by the first transmission terminal with respect to ~~; and means for orthogonalizing the~~ second data configured to be transmitted by the second transmission terminal.

23. (Currently amended) The transmission system of [[C]] claim 22, wherein ~~each of~~ the means for orthogonalizing further comprises:

means for applying a first spreading code ~~different Walsh codes~~ to the first ~~different respective~~ data, originating from the first transmission terminal, to generate a first spread signal, wherein the first speading code is distinct from a second spreading code utilized by the second transmission terminal to generate a second spread signal from the second data. ~~different respective users of the transmission system.~~

24. (Cancelled)

25. (Currently amended) The transmission system of claim 23, wherein the means for applying the first spreading code further comprises means for applying a first Walsh code, assigned to the first transmission terminal, to generate the first spread signal, wherein the first Walsh code is distinct from a second Walsh code assigned to the second transmission terminal.

~~A communication system including the transmission system of Claim 21 and further comprising:~~

~~means for receiving the first and second long-encoded, polarized communication signals;~~

~~means for separating the first and second long-encoded, polarized communication signals based on their respective polarizations to produce a first long-encoded signal and a second long-encoded signal, respectively; and~~

~~means for applying the long code to the received first and second long-encoded communication signals to produce the first and second data;~~

~~means for applying a first orthogonal code to the first decoded signal to produce the first data; and~~

~~means for applying a second orthogonal code to the second decoded signal to produce the second data .~~

26. (Currently amended) A receiver system, ~~for demodulating first and second long-encoded, polarized communication signals transmitted from respective first and second transmission sources, the receiver~~ comprising:

means for receiving a signal; ~~the first and second long-encoded, polarized communication signals;~~

means for separating the signal received into a first signal, which is transmitted by a first terminal, and a second signal, which is transmitted by a second terminal, wherein the first signal and the second terminal have opposite polarizations with respect to one another;

~~the first long-encoded, polarized communication signal from the second long-encoded, polarized communication signal in accordance with their respective polarizations to produce a first long-encoded communication signal and a second long-encoded communication signal;~~

means for applying an identical long code to the first signal and the second ~~long-encoded communication~~ signal[[s]] to produce a first decoded ~~communication~~ signal and a second decoded signal, respectively;

~~means for applying the long code to the second long-encoded communication signal to produce a second decoded communication signal;~~

means for applying a first orthogonal code to the first decoded ~~communication~~ signal to produce a first output signal corresponding to the first ~~data~~ signal transmitted from the first terminal; and

means for applying a second orthogonal code to the second decoded ~~communication~~ signal to produce a second output signal corresponding to the second ~~data~~ signal transmitted from the second terminal.

27-28. (Cancelled)

29. (Currently amended) The receiver system of claim 26, ~~A communication system, including the demodulating system of Claim 26 and~~ further comprising:

means for generating a first in-phase signal component and a first quadrature signal component of the first signal; and

means for performing respective pulse shaping operations on the first in-phase signal component and the first quadrature signal component.

~~means for encoding first data with the long code at a first terminal to produce a first long-encoded signal;~~

~~means for applying a first polarization to the first long-encoded signal to produce a first long-encoded, polarized signal;~~

~~means for encoding second data with the long code at a second terminal to produce a second long-encoded signal;~~

~~means for applying a second polarization to the second long-encoded signal to produce a second long-encoded, polarized signal;~~

~~means for transmitting the first long-encoded, polarized signal from the first terminal to a receiver; and~~

~~means for transmitting the second long-encoded, polarized signal from the second terminal to the receiver.~~

30. (Cancelled)